

In the Claims:

1 (original). A method for pest control wherein said method comprises exposing said pest to a compound which disrupts, within said pest, an organic solute transporter/ligand-gated ion channel protein.

2 (original). The method, according to claim 1, wherein said method comprises exposing said pest to a compound which disrupts the function of a CAATCH1 protein.

3 (original). The method, according to claim 2, wherein said CAATCH1 protein comprises the amino acid sequence shown in SEQ ID NO: 2, or a portion of said sequence wherein said portion has CAATCH1 biological activity.

4 (original). The method, according to claim 1, wherein said method comprises exposing said pest to an amino acid which disrupts said organic solute transporter/ligand-gated ion channel protein.

5 (original). The method, according to claim 4, wherein said amino acid is selected from the group consisting of methionine, leucine, histidine, glycine, threonine, beta-alanine, alanine and their analogs; wherein, for each amino acid, the amino acid may be in a racemic mixture or in an enantiomerically-enriched L- or D- form.

6 (original). The method, according to claim 5, wherein said amino acid is methionine or leucine.

7 (original). The method, according to claim 6, wherein said amino acid is methionine.

8-11 (cancelled).

12 (original). The method, according to claim 1, wherein said pest is selected from the group consisting of Lepidopterans, Coleopterans, and Diptera.

13 (original). The method, according to claim 12, wherein said pest is in the order Coleoptera.

14 (original). The method, according to claim 13, wherein said coleopteran is a Leptinotarsa spp., rootworm, or weevil.

15 (original). The method, according to claim 12, wherein said pest is in the order Diptera.

16 (original). The method, according to claim 15, wherein said lepidopteran is selected from the group consisting of cutworms, budworms, leafworms, earworms, and armyworms.

17 (original). The method, according to claim 12, wherein said pest is in the order Diptera.

18 (original). The method, according to claim 17, wherein dipteran is a mosquito.

19 (original). The method, according to claim 1, wherein said pest is selected from the group consisting of cockroaches, ants, termites, and nematodes.

20 (original). The method, according to claim 1, wherein said pest has an alkaline gut compartment.

21 (previously amended): The method, according to claim 1, wherein said

pest has a V-type ATPase in its gut or midgut region.

22-26 (cancel).

27-37 (previously cancelled).

38 (original). A method for controlling a pest wherein said method comprises administering to said pest an effective amount of an amino acid or an analog thereof.

39 (original). The method, according to claim 38, wherein said amino acid is selected from the group consisting of methionine, leucine, histidine, glycine, threonine, beta-alanine, alanine and their analogs; wherein, for each amino acid, the amino acid may be in a racemic mixture or in an enantiomerically-enriched L- or D- form.

40 (previously added). A method for controlling a pest wherein said method comprises inhibiting, within said pest, solute transport or ion channel activity.

41 (cancel).

42 (previously added). The method, according to claim 1, wherein said compound is applied with another pesticide.

43 (previously added). The method, according to claim 42, wherein said another pesticide is a *Bacillus thuringiensis*.

44 (previously added). The method, according to claim 1, wherein said compound is applied in a formulation further comprising a carrier.

45 (previously added). The method, according to claim 44, wherein said carrier is an oil or powder.

46 (re-presented, previous claim 8). The method, according to claim 1, which comprises exposing said pest to a host which has been transformed to express said compound.

47 (re-presented, previous claim 9). The method, according to claim 46 wherein said host is selected from the group consisting of plants, algae, bacteria, and yeast.

48 (represented, previous claim 10). The method, according to claim 47, wherein said host is a plant.

C 49 (re-presented, previous claim 11). The method, according to claim 48, wherein said plant is selected from the group consisting of the Family *Solanaceae*; *Solanum spp.*; *Glycine spp.*; Family *Fabaceae*; *Zea mays*; *Zea spp.* and *Nicotina spp.*

50 (re-presented, previous claim 27). A composition comprising a pesticidal amount of a compound which disrupts, within a target pest, an organic solute transporter/ligand-gated ion channel protein.

51 (re-presented, previous claim 28). The composition, according to claim 50, wherein said compound is an amino acid.

52 (re-presented, previous claim 29). The composition, according to claim 51, wherein said amino acid is selected from the group consisting of methionine, leucine, histidine, glycine, threonine, beta-alanine, alanine and their analogs; wherein, for each amino acid, the amino acid may be in a racemic mixture or in an enantiomerically-enriched L- or D- form.

53 (re-presented, previous claim 30). The composition, according to claim 52, wherein said amino acid is methionine or leucine.

54 (re-presented, previous claim 31). The composition, according to claim 53, wherein said amino acid is methionine.

55 (re-presented, previous claim 32). The composition, according to claim 50, wherein said composition comprises a transformed host which expresses said compound.

56 (re-presented, previous claim 33). The composition, according to claim 55, wherein said host is selected from the group consisting of plants, algae, bacteria, and yeast.

57 (re-presented, previous claim 34). The composition, according to claim 56, wherein said host is a plant.

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58 (re-presented, previous claim 35). The composition, according to claim 57, wherein said plant is selected from the group consisting of the Family *Solanaceae*; *Solanum spp.*; *Glycine spp.*; Family *Fabaceae*; *Zea mays*; *Zea spp.* and *Nicotina spp.*

59 (re-presented, previous claim 36). A method for identifying a CAATCH1 protein comprising the use of antibodies generated an epitope of SEQ ID NO:2, and detecting binding between said antibodies and said CAATCH1 protein.

60 (re-presented, previous claim 37). A method for detecting CAATCH1 genes comprising the use of an oligonucleotide probe of SEQ ID NO:1, and detecting hybridization between said oligonucleotide probe and a target sequence.